Four-Point Analysis with Heterogeneity, 75% of Families Linked
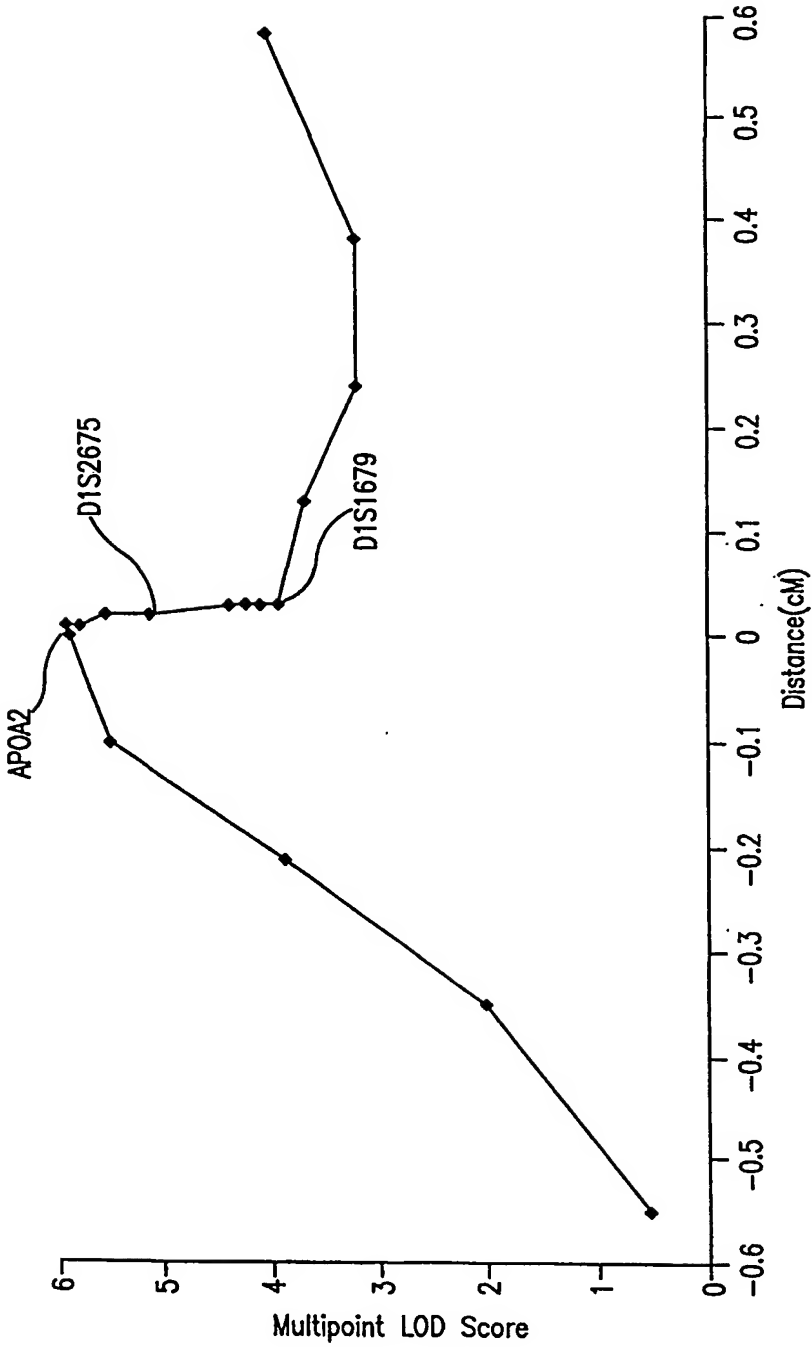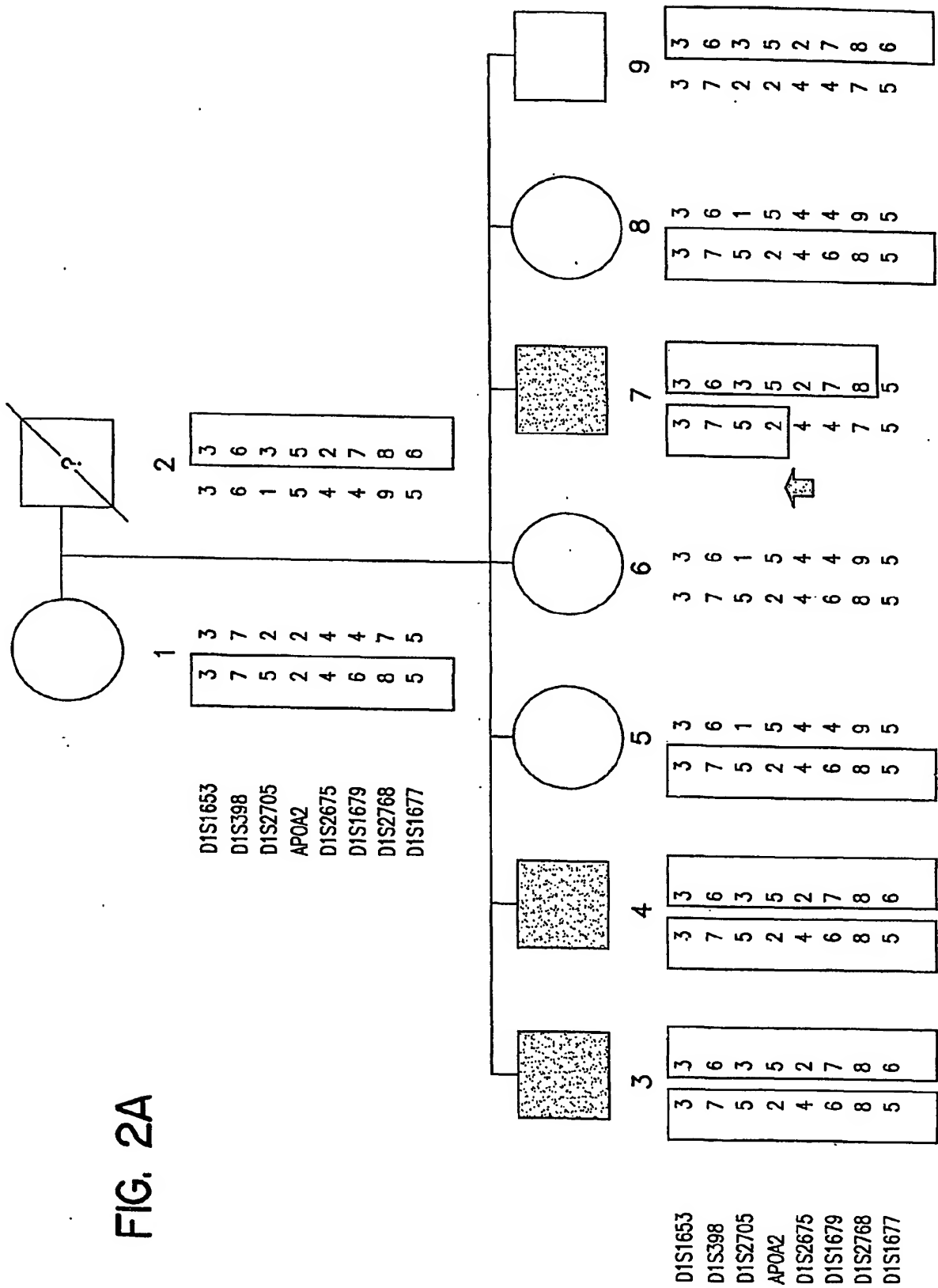
FIG. I
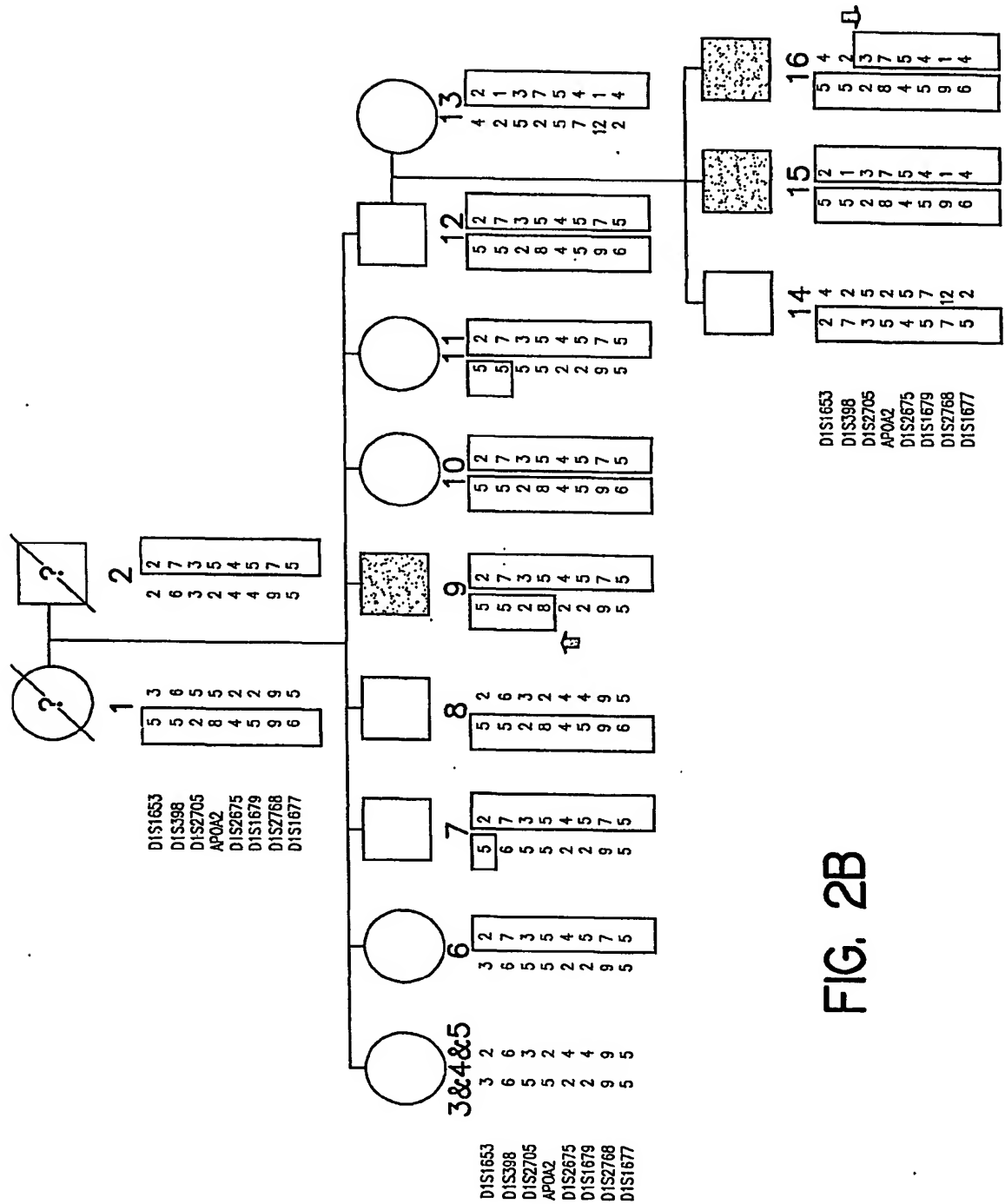
FIG. 2A
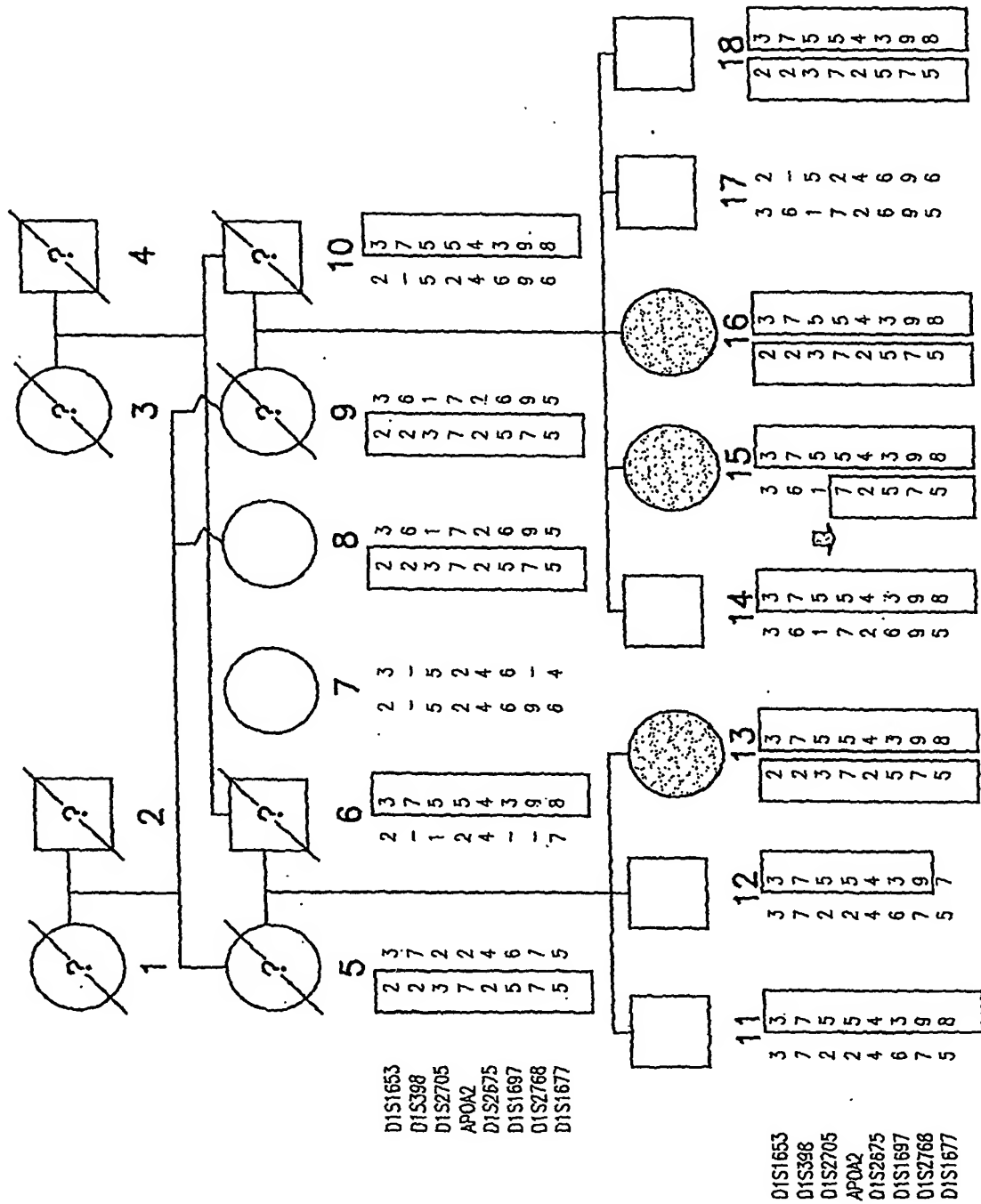
FIG. 2B

FIG. 2C

D1S1653
D1S398
D1S2705
APOA2
D1S2675
D1S1697
D1S2768
D1S1677

D1S1653
D1S398
D1S2705
APOA2
D1S2675
D1S1697
D1S2768
D1S1677

FIG. 2D

FIG. 2E

Genomic organization of human carboxyl terminal PDZ ligand of nitric oxide synthase
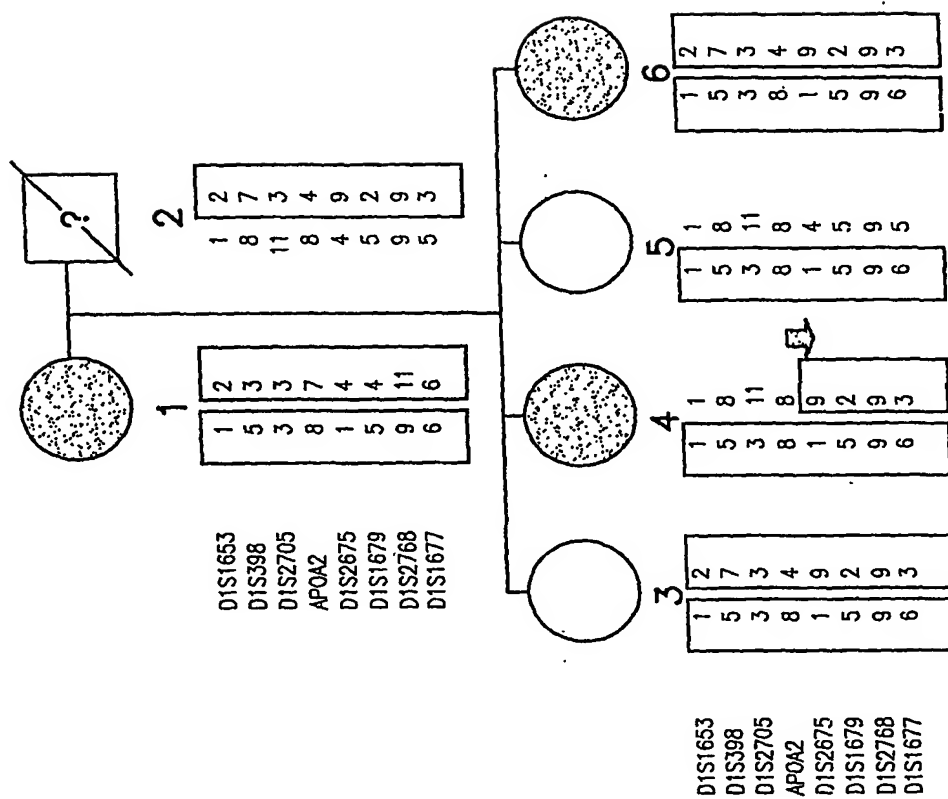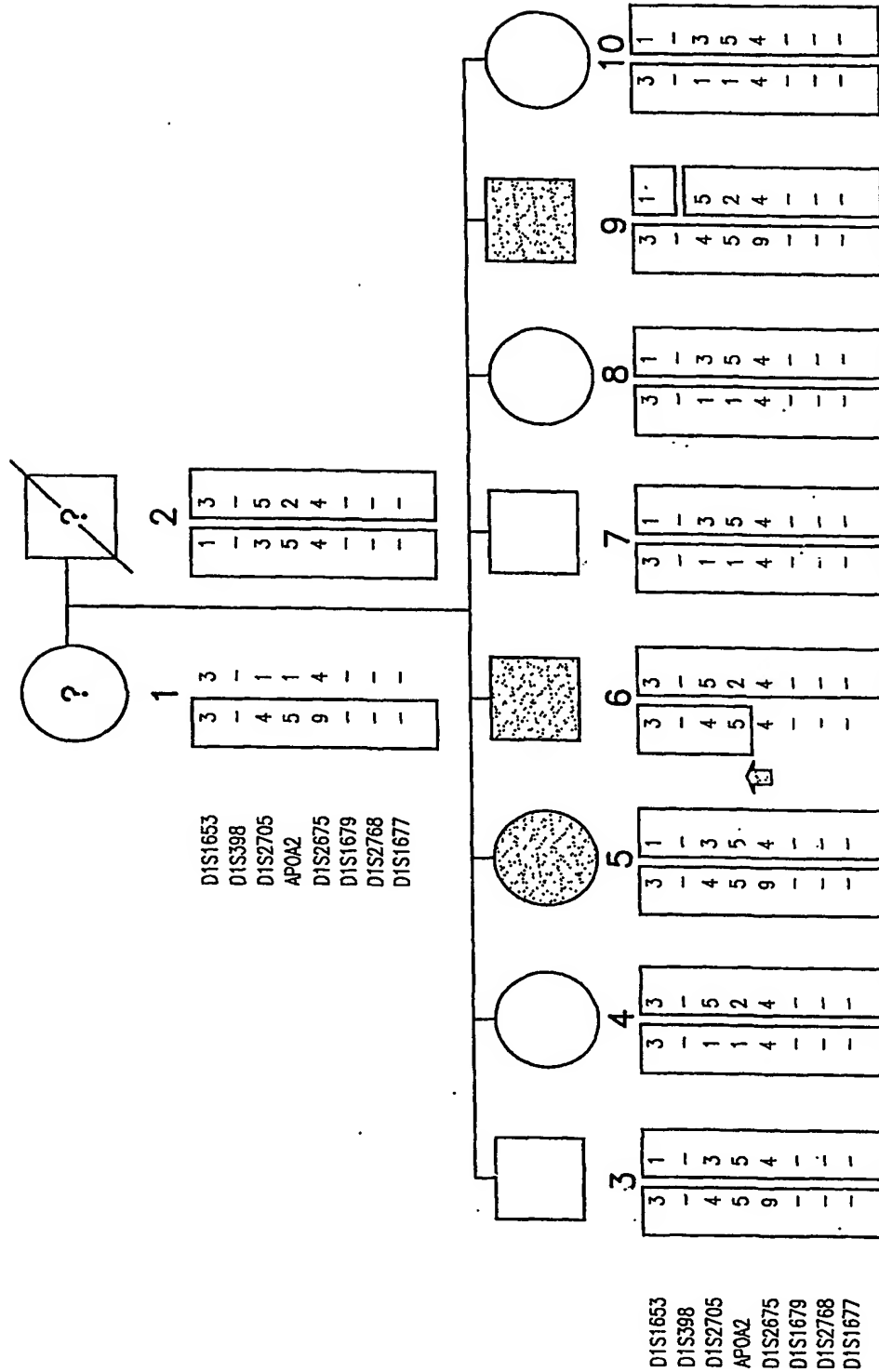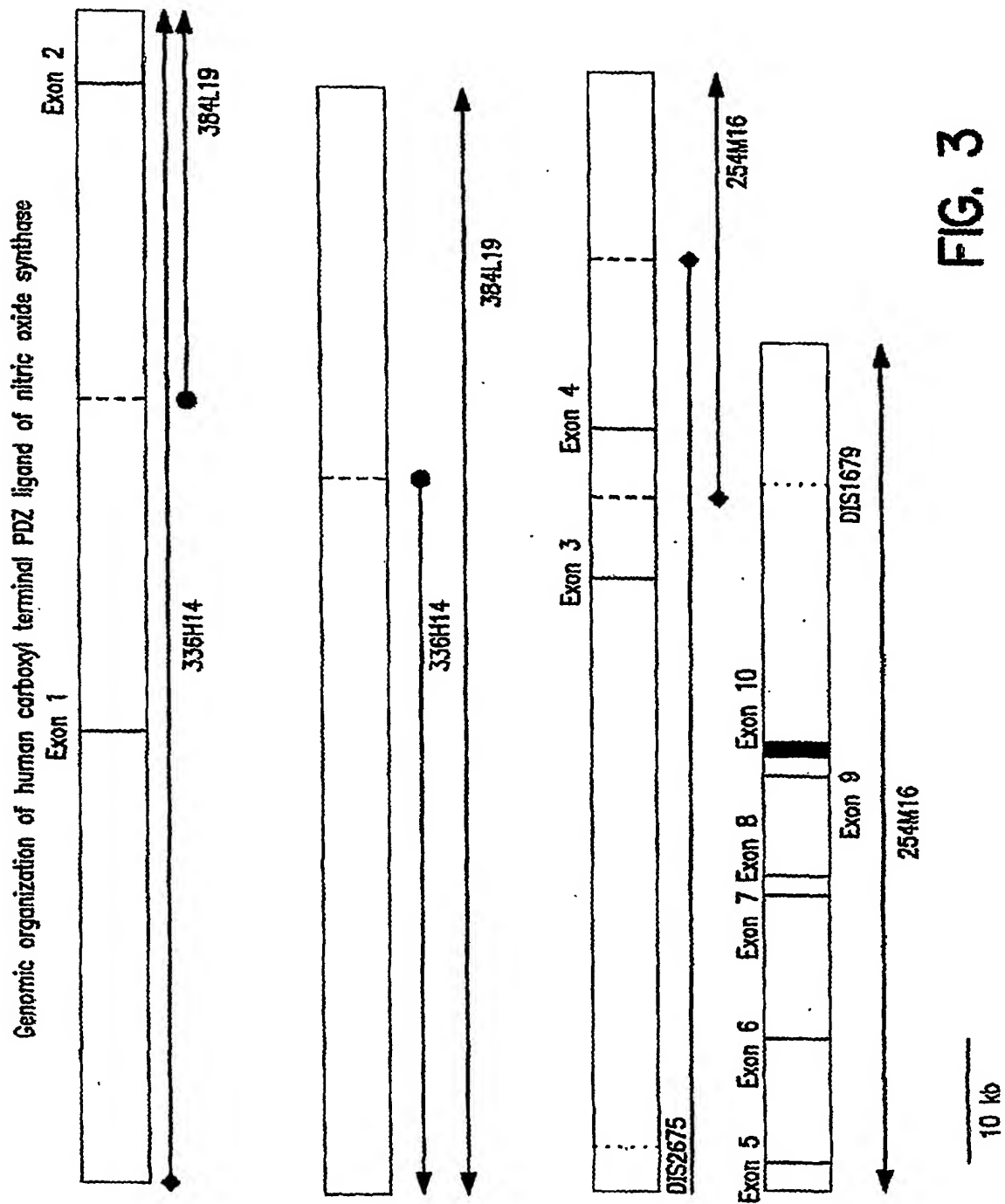
FIG. 3

Exons and surrounding intronic sequence.   Transcribed sequence
is underlined.

Exon1:
GCGCGGGGGCGGACCCGGCGGCGGGCGGGGCCTCTGAGCCCGGCGGGAGGAGCCGGCCTGGGCC
CGCCCCACAGGAGGAGCCAGCTCGCTGGCGGCTGATCCAGCGTCTCCGTGACAGGCACCCTGCT
CCGCCGCCACCGCCACCGCCACCGCCACCGTCGCCTTTTCTTCTTCGTCCCGGGCGGTGCGTTC
CACTGTTCTGGGGCCGGCGCCGCGCCCAGTCCCGCTTCGGGCCGCAAGCCCCACCGCTCCCCTC
CCCGGGCAGGGGCGCCGCGCAGCCCGCTCCCGCCGCCACCTCCTCCCCTGCCGCCCTCCTAGCC
·GGCAGGAATTGCGCGACCACAGCGCCGCTCGCGTCGCCCGCATCAGCTCAGCCCGCTGCCGCTC
GGCCCTCGGCACCGCTCCGGGTCCGGCCGCCGCGCGGCCAGGGCTCCCCCTGCCCAGCGCTCCC
AGGCCCCGCCACGCGTCGCCGCGCCCAGCTCCAGTCTCCCCTCCCCGGGGTCTCGCCAGCCCCT
TCCTGCAGCCGCCGCCTCCGAAGGAGCGGGTCCGCCGCGGGTAACCATGCCTAGCAAAACCAAG
TACAACCTTGTGGACGATGGGCACGACCTGCGGATCCCCTTGCACAACGAGGACGCCTTCCAGC
ACGGCATCTGCTTTGAGGCCAAGGTGAGGGGGCTCCGGGGAGGGTGCTACCTGTGGTGGCGGTT
GGGGGGGCATGTTTGAGCGGATGGGATGCACAGCCGTCCTGGACCCAGAGCTGGCGGGCTAGGC
CGATTTGGGGGCCTTTCTCTTAGGGAGGGTAACTCTCCCTTCTGAGTCTATAATTCCGCGGGCT
CCTGCCCAGAACTGCTCAAGAGCAACTGCAAAGTTTGAGCGGTATTGCCTCACCTCCCCCTTCC

Exon2:
CTGGTTAAGAGCAAGATGAAAAAAGGAAGCAGTAATTTCTGGTTAACTTGCTTTTTATAAAGTT
AGAAACAGACTCAAAACAAAACACCCTGCTGGCTCTTAATTTCTTCATCTGTAAAATGGGCAGA
TGAGCTAGTCCTTTACCCTTTGGAACTTTCTGGGATTAGGGACACTTGCTACCCCTCCTCTCAA
TGAGTGTTTGCTTCTCCCCCACAGTACGTAGGAAGCCTGGACGTGCCAAGGCCCAACAGCAGGG
TGGAGATCGTGGCTGCCATGCGCCGGATACGGGTGAGTGGCCAGAGGTGGACTGTGTGGAGCGG
GGAGTCAAGTGCCTTAGCTGCTGGCCCTTCTAGGTAGGGCTGGAGGGGCCAAAATGGATGGCTA
CACCCCTTGCAAACCCAAACTCCTCCTCTCTGTACCCTCTAGGTAGCTGTTCTGAATTGAACAT
TTGATCTTGATGAAAGGCCAATGTTAAAATGGATGTGATGGCTGGAGTGGTACCATCTTCCCTC

Exon3:
CTCATGAGGGTAGCTAGCTGATGGCTGAGAAGTGGTATAGACTATTCAGAGTCCCGTTTCTAAC
CCAGAGATTGCCTGAGACATCCACCTGCTTTTACATCCCCCGAGGTGCTCCCTGCCCCCAGGAG
CTATTCCCCACACCTGTCTGGGGACCTTTTTTCCAGGCATGGGCTAGCTGGGTCTGTATAGATG
CACTGATCTCATCAGATTGCACTTTCTTTTTGTTTTCTTCTTTCTTGCAGTATGAGTTTAAAGC
CAAGAACATCAAGAAGAAGAAAGTGAGCATTATGGTTTCAGTGGATGGAGTGAAAGTGATTCTG
AAGAAGAAGAAAAAGGTAAGTGGCTCTGAACCAGAATCTGAGGTGAAGAGGAAAGCAGGGGAGG
TAGGCATGGGGTACCTTCTTCTTCTGGGCCCACCTCCAGAGAGAATCCCTCCCTTATCTGGCAA
GCTCTTCTGCTTTGAGCAGCAATGGTGCTGACAGGCTGCAGCAGAGTGTAGGGCGAGGCGAGGC
CAAAGGCCTAGTCACCAGTTGGCTCAGTCAGTCCTGGTACCCCAGGTGATGGGAGTCACCTCCT
GTCATCCATGCCTTCAACCCCCCTCCCCATTTTCATACCTTTATCTTTGAGTTTTGAGTCCTGA

Exon4:
15 basepairs in AB007933 but missing in CAPON-1 are italicized

CCCCACTTCACCCCGAGTTCCCTAAGGACTTCTTGGCTTTTGCCTACCCTCTGAGCCCTGGAGA
GGCACTCTCCTAAAGTGCTTGGAGGAAACTGATCAGACTAGACACTTGATATTTTGCACTCGTC

FIG 4A

GTTTTGGAGCAATCAACTCCAGGCCTCTTAGAGGGAAAAAGTCAGGTCAGGAGCAAAATGCATG
TGTTTGCATAAGTATGCATAGCTCAGTGTGTGCCCTGGTCCTGTAACTGAGGACAAGCCTAACT
TATTCATTTACAG*CTTCTTTTATTGCAG*AAAAAGGAATGGACGTGGGATGAGAGCAAGATGCTG
GTGATGCAGGACCCCATCTACAGGTAAGAGCCCAGTCCAGCACCCAAGATATCACTGAGCCCCA
GAGTCCTCCTGCCCCCTACAGCCACCTGTCAGGCTGGTGGATCCAGGCAAATTTAAATAAACTT
CTATGCTTTTCCCTCCTGAGACCTGTTGCTTCCATTAGATGTGAGTTCAAGAAGTAAATCTGCC
TTATCATTCTGGTCATGCTTGATTGCATTAAGGAAGCTATGAAGTATATCTGCTTGATGTTTAA

Exon5 :
CTACCCCTGCCCCCTCTACCAAATCTGAAAGTCACAGTGTTAGTGTTTGTGGAATCTGTTGAAA
GTGCCTCCTGCATTGTGACTTTTTGATCCTGAAGGAAGAAGACTTTCTGTAATAACTTGGCTCT
CATGAGCTGTGCTTCAGAGTGTCCTTAAACAGAGCTTTCCTGGTTGGAGATTTGAACCTAAGGC
CATTTTCAGTGCATTTTTCTGTTGTTCTTCCTTTAGGATCTTCTATGTCTCTCATGATTCCCAA
GACTTGAAGATCTTCAGCTATATCGCTCGAGATGGTGCCAGCAATATCTTCAGGTGTAACGTCT
TTAAATCCAAGAAGAAGGTAAAGAGGCGGTTGCCGTCCATCTGCTATTTTCCTCTAATGGTTCC
AAAGCACCCCAACATTGGCCCGTCTCCCTGTTGAAGACAGCTGTGGTAATGCCGACATGGGGC
AACTATCTCAGTCGTCTGTCATTGCTCCTATATAATGGAATTCTCTTTTAGCATCATCTGAACT
TTGTACTTAGTTACATACAGATAAATGCAAAGGGATTGACCGTTGACTACGTGCTCTGGGATGA
GAGCAGTTAAACAGCACCGGGAGTGATGCTAACCTTAGCCTTGGGGTAGGAAAAAAGCATTGTC

Exon6 :
CCTTTCAGTTGACTGATTGTTTCAGCACTGTGGTGACAGTTTCTGTTTTCTGGAGTATTTCAGA
AAGGGGAAATGTCTTTGCACTCATTTGTATGTGCATATCTGAACAACTTTAGATTTTTCTGTCT
CTTTCTTTGGCTGCTTCATGAGTTTCTATCCACATGCCCCTTGCGCATCCTCACCCACCCTGTT
CTTCTCCTTTCTCCTTCCCAGAGCCAAGCTATGAGAATCGTTCGGACGGTGGGGCAGGCCTTTG
AGGTCTGCCACAAGCTGAGCCTGCAGCACACGCAGCAGAATGCAGATGGCCAGGAAGATGGAGA
GAGCGAGAGGAACAGCAACAGCTCAGGAGACCCAGGTAGGCACTGCGGCTTCTGTGGATGTGGG
TGGGAAGGCAGTGCACACAGTAGGCTCTGGTGGATCACTGCCCTGACCCCCAGGCTGTGAACTC
ATTTTAAGAAACATTTTATTTTTTCCGTTTCTCTCTAAATTCTAGATTCTCTTTAAGGAACACG
TATTACTTTTATAACAGAAATTAAAGATGTTTAAATTATTAAATGAGGAAGTATTTAAACTGGA
TATCAGGGAGAGGTAGAGCTGCTATACTACCAAATCTGACTTCAAAGAAGTTTTCAGTAAAAAA

Exon7 :
TGGAGATGATCAGCATCCCCTTCTTCCAGTGTACCTTGTCAATATATTCCTGTGAACCTGGCAA
AACTTTTACATCCAGGCTTGAGGAAGTATTGCCTTTTTTTCTGGACTTTGAAAAGATACTAAGA
TGAGAACATCTTACTGGGCTGGAAATGCACTTTAACGTACTTGAGTGAAAAGATGTGTGAAAAT
GTTACAAAGCCAGTGGCATCCCTAGGCTCAACATGCCTGAAAGCTAAAGTATTAGGAAAGGAGG
ACTTTGTTCTCGGTGTTTTCATTCTCTTCCCTCCCTCCCCTGTTGTTCCTGCAGGCCGCCAGCT
CACTGGAGCCGAGAGGGCCTCCACGGCCACTGCAGAGGAGACTGACATCGATGCGGTGGAGGTC
CCACTTCCAGGGAATGATGTCCTGGAATTCAGCCGAGGTGTGACTGATCTAGATGCTGTAGGGA
AGGAAGGAGGCTCTCACACAGGCTCCAAGGTAGGCAAGAGATGGCCCATCTGTGTGATCTGCAC
ACGTGTGCCCTCAGGTCATCAGTCACTTCCTAGCCCCTGCCAGCTCAGCTTCCGAGTGAGGCAC
TCCATGGCACAGTGGCGGTGCCAGAGCGCACTTCATTGCCTTTCAGAAGGTCTGACTTCCAGAG
GGTCTGAACACTAGATGCTGCTGCAGGCCAGGATGCTGTGGAGCTGATTCCTGACACACATCGC
CCTCCCCAAATCCCACCAATATTTGGTCTCCTACTCCCTGGCACCCTCTTCCCTTAACAGCATC
TCATCTTTGCACAGTATTTTGCAAGGCTCACTCTGGCACACACACACACACAGACTCCCCTG

Fig 4B

Exon8:
AGAGATGGAGCAGTATCAGCCATCAGTCTCCCATCGGGGTCAGTTACCGAGGTGTCCCCCTAGT
CCCCCTACGATTTTCTGACTGTGTGGTATCAGCCCAGGCAGCTACACCATTTCCTTTCTGGGCC
TCTACTCCCATTTCCATTGAAGATATAGTGCTGTCAGCTTATGGGTTGTAAGTGTGCCAATTTG
CTCCTCCTGAGTGCATGCCAAAGAGAGGGAGGCCCCTCAAGATGGCTCCTGCCACATGTCATGT
CCTGTCTTCTCCTTCTCCTCCAGG<u>TTTCGCACCCCCAGGAGCCCATGCTGACAGCCTCACCCAG</u>
<u>GATGCTGCTCCCTTCTTCTTCCTCGAAGCCTCCAGGCCTGGGCACAGAGACACCGCTGTCCACT</u>
<u>CACCACCAGATGCAGCTCCTCCAGCAGCTCCTCCAGCAGCAGCAGCAGCAGACACAAGTGGCTG</u>
<u>TGGCCCAGGTTCTCCTCAGCCTCCTCCCTACTTCGCAGGCTCCACTCTCATGGGCTTGATGCAC</u>
CTTCCCTAGCGAGGGGCTCAGGGCAGGTTTAAAATCTAGGGAGTCATAAGGAATCGCTCATGCT
ATTGGATCATTGCTTGTTGGGGAGTGGGGGCAGTGGGAGGGGGATAGATGGGGGATGCAGTTGA
AATGGAGAGGCACATTTTGGTTTCCCATGTATCCCCTGCTCTGAGCTGGGCTTGGCTGGCTTGG
CTGAATGTTGTTAATGACTTGAACTGACCAAGGGAAAAGATGCACACAATTCCACCCTTCCTTT
CCTGCCTTACTTTCCTGATATTTGGGGTGGAAAGTGATGCCTTTGGAGTCAGAACAGTTGTGGC

Exon9:
Sequence translated in CAPON-2 but not CAPON-1 is italicized

CTTACCCTTCTCTGAGGCTTATCTGTGGGCTTCCCATAGCAGTTGTCCTGTTCCTTAGAACCAA
ATAGATTTGGGGGACCCCCAGCTGAAATTTCTCCATGCCTCCCTTTCCAAAGAGGAGAAAACCT
TAATAGCCACCCACCATCTGACATCCAGATTACAATATTATTGACATTTCTTTCCCTGTTGAGT
GGATATAGGAAGAAACAAACTCAGTTTCTTCCTGCTATACTGTCACAACATACTTCTATGACCA
AATGTATGGGGCTTTTTCCCACACACCAAGCAAGCAAGCAGTTCTGCAGAGGGCACACAGTGTC
CTCTAACTCAGTTTGATTCTGATACTATCTACCTGGAAACAGCATCAGATCCCACAGTTTGAGG
GCTCAATCCCACAAGACTTTCCCCCATTTCAGACACCAATCACAAGTAATAGTTTGTCACCTAC
ACCTCTGACCAAGTGGCTATAAATTGGTGTTCCCACTACCCTCTCCTTGGACTCAACTGATTTG
CTAGAGCAACTGACAGAACTCAGGAAAACACCTACATTTACTGGTTTATTTTAAAGGATATTAT
AAGGGATACCAATGAACACCAGATGGAAGAGATGCATAGGGCAGGGTCTGTGGGAAGGGTGGCA
GAGCTCCCATGCCCTCCCAACGTGCACCACCCTCCAGGAACCTCTAAATGTTCAGCTGCCCGGC
AGCTCCCCACACCCAGTCCTTTTGAGTTTTTAATGGAGGCTTTATTATGTAGGCATGATTGATT
ACATCATTGGCCACTGGTGATTAGTTTAACTTTTAGCCCCTCATCTCCTGGAGGTTGGGGCGTG
GGACTGAAAAATCCTATCCTCTAATCATACCTTGGTCTGTCCTGTGAGCAGCCCCCATCCCGAA
GCTTCCAGGGGTTCCCCAACCACTAATCATCTAATAAGCATACAAAAAACACTCTTACCACTCT
GGAGATCTCAAGGGTTTGGGGAGCTATATGTCAGGAAACAGGGATGAAGACCAAACATGTATTT
CACTGTATCACACCTGTTCTCACCCCTCCCCAGATCTTCTCTCAATTAATATGAGACAAAAAAA
TGAGTCTGACTTCTTGACCAAAATATCAGTTCTGTCCTTAGCAGCTTTATGGAGGACAGATTTA
GTTTAAATTCCTTAGGCATTATGCCCCTGTGGCTCCACTCAATCAGAAATAGGGTCAACGGCAA
GGTCAGGGCCTCCAATCTGGGCAAGAGGGAGGCAGCCACGGTATCCACAAGTGTAATTCTCTGA
GTGCTGGTTGCTGGGAGGGGCACACCCTGGGCCAGCAAGTCACTTGGCCAAGGGTGGCCAACTG
TGAGGTAGCACTGCCCTTTACTCCCTAAAAAAATGTGAATCTCTTTGGAGCAAACTCCTCTTCA
GAAATTTGAGCACTTGTTTTCTGAGCAAGGGAATCAGCTAATGCTTTTGACTCCCCATCCATCT
TCCTGCATCCTCGTCCCACCTCTCCTGCCCCCACTCACCTGGCTCTGTCTTTACCCACACCATG
GTTTTGGTACAAGAACACCCTTTTCCCCATAAGCTACATTGGTCCAGGCCATAAAAATTCATTA
GTTCCCTTTCTTCAGGGGCCTTCTGAAATGCTCCCTGGAGAACTCTTTATTCACTTCTTTGCAC
AAGAATCACATATGTGTGAACACTGGTATTGGCCTTCTAACTCAGTTTCTTCAAACCAGGGTCC
TGGTCTGGTTGCCCCTGTCTCCTCCCACTGAGTTTTATCTCCACATAAGTATTGCTCACCAAGA

Fig 4C

ACAGAGCTGTTGACACCACTGGGCCTCAAGCATGCTGAATGCATTGCTGCCAACTGCTCTGCCT
TAAGAAGGTTGGAAACTGATGAGGGTGCCACAAATTGTTCACCTCAGCCCTTCTGGGCTGGTTG
GAGGAGGCCCTCTCATGAATCAGTCAGCAAATGTTTGACCCCTACCAGGTGGTCCTGGTAATAT
GTGGTATGAATCATGGTCCTAGATGTCTGCCATAGCAAATAAAAAAGGAAGACAGGGAAAGAAG
CTGTCGCCTACAGAGTGGCTTGATGACAGCTGCCTCACTAATTTAAAAAGCCATGTGTAGTGCT
TCCTATTTCTCACTATGTTTGGGTGAGTGGGAGAGGGAGAAAGATTATATGGGCTTCGTTGTGA
CACTGTTCTTAGCCAGTGGGTCAATAGATGAGTTTTGGTTTTGTTTTTTAGAAGACAGGATGAG
AAGAGAGTGCCCCCTTCCACCTCCAACATGGCATGCCATGCTAGGTGCTGAAGGAGTTCTCTAA
GCAGGGATGGAGCACCGTGCGTGTGTGTGTGTATATGTGCACGTGTGTGTGTACGTGTGTGTGT
GTGGCAGGTCTAGAGGGTCGATGGCTCTTTCCTGCCTCTTGCCCTTGGTATGGGTACCTTAGTG
ATGCATCATGGCCCTCCCTTAGGACACACAGCTTCGCAGTGCCAGTGAACCCACTCCTTTTGGC
TCCTCCTCTGGAATGATAAGCCCAGATGCCCATGCTGCCCGTGAAGGGCTTCTTCTTGAACTGA
ATGTGGAGGGCATCTCTGGTCCCGGCCATCTGCCAGTGACTCTCATGTGCATTCATGTCCCTCT
CTTCTCTCTGTCCTGTCTTCTCTGCCGCTGCCTCTTCTCTGCAG<u>GTACACTTGCTGAAGGACCA</u>
<u>GTTGGCTGCTGAGGCTGCGGCGCGGCTGGAGGCCCAGGCTCGCGTGCATCAGCTTTTGCTGCAG</u>
<u>AACAAGGACATGCTCCAGCACATCTCCCTGCTGGTCAAGCAGGTGCAAGAGCTGGAACTGAAGC</u>
<u>TGTCAGGACAGAACGCCAGTAAGCCAGTGCCCTGCCCAGCCCTGCTTCCTCTGTGAAGGCTCTG</u>
GAAAGAGTGTCACTTTCCTTAAGTTTTTGGTGGTGCTTTCTTGGACCCCTGACCTACCCCTATA
TTCCAGCAGAAAACATAGGCAGCTTTGTTTTCCCATTAGTATACTTAATGAATTACAGAATCAC
ATGCCCAAAGGAGATCTCGGGTGCCTTCTAATCCAGGCCCAGGGCTGGACTTTGAATGTCCCCG

Exon10:
Sequence transcribed for CAPON-1 is underlined, additional 3'
untranslated but transcribed sequence present in CAPON-2 is
italicized

TAATTAATGCTTATTTACATGATTGTACTAAAGGTTACCACAGGCTTCTAACATGGTTCTCTCA
ATTGGTACCTTTTTCCTACCACTAACCCTATTCAGAGCCTTCAGTGGCTACCAGAACCATCATA
TGGTTCTTATGTCCCCGCCTTTACCACGTCCCAAAGCTCCTCCCCTCCAGCGAGGTGTGTCTGG
AGCTATGTGGGGGCGGGAGGAAGGGTGAAGTGTTAAGAGACCCAAAGCCCGGAGAGGTGCTGCT
AAGCTGGTCTGGGAAGGGCTTTGGCATGGCACGGGCGGGCAGAAAGCGGGCATCCCAAATCAAC
AACCTTGCCTAACGCTGCCCCTCTGCTACCTCTTGTCTCCCCTGCAGTGGGCTCCCAGGACAGC
<u>TTGCTGGAGATCACCTTCCGCTCCGGAGCCCTGCCCGTGCTCTGTGACCCCACGACCCCTAAGC</u>
<u>CAGAGGACCTGCATTCGCCGCCGCTGGGCGCGGGCTTGGCTGACTTTGCCCACCCTGCGGGCAG</u>
<u>CCCCTTAGGTAGGCGCGACTGCTTGGTGAAGCTGGAGTGCTTTCGCTTTCTTCCGCCCGAGGAC</u>
<u>ACCCCGCCCCCAGCGCAAGGCGAGGCGCTCCTGGGCGGTCTGGAGCTCATCAAGTTCCGAGAGT</u>
<u>CAGGCATCGCCTCGGAGTACGAGTCCAACACGGACGAGAGCGAGGAGCGCGACTCGTGGTCCCA</u>
<u>GGAGGAGCTGCCGCGCCTGCTGAATGTCCTGCAGAGGCAGGAACTGGGCGACGGCCTGGATGAT</u>
<u>GAGATCGCCGTGTAGGTGCCGAGGGCGAGGAGATGGAGGCGGCGGCGTGGCTGGAGGGGCCGTG</u>
<u>TCTGGCTGCTGCCCGGGTAGGGGATGCCCAGTGAATGTGCACTGCCGAGGAGAATGCCAGCCAG</u>
<u>GGCCCGGGAGAGTGTGAGGTTTCAGGAAAGTATTGAGATTCTGCTTTGGAGGGTAAAGTGGGGA</u>
<u>AGAAATCGGATTCCCAGAGGTGAATCAGCTCCTCTCCTACTTGTGACTAGAGGGTGGTGGAGGT</u>
<u>AAGGCCTTCCAGAGCCCATGGCTTCAGGAGAGGGTCTCTCTCCAGGACTGCCAGGCTGCTGGAG</u>
<u>GACCTGCCCCTACCTGCTGCATCGTCAGGCTCCCACGCTTTGTCCGTGATGCCCCCCTACCCCC</u>
<u>TCACTCTCCCCGTCTGCATGGTCCCGACCAGGAAGGGAAGCCATCGGTACCTTCTCAGGTACTT</u>
<u>TGTTTCTGGATATCACGATGCTGCGAGTTGCCTAACCCTCCCCCTACCTTTATGAGAGGAATTC</u>
<u>CTTCTCCAGGCCCTTGCTGAGATTGTAGAGATTGAGTGCTCTGGACCGCAAAAGCCAGGCTAGT</u>

Fig 4D

```
CCTTGTAGGGTGAGCATGGAATTGGAATGTGTCACAGTGGATAAGCTTTTAGAGGAACTGAATC
CAAACATTTTCTCCAGCCGGACATTGAATGTTGCTACAAAGGGAGCCTTGAAGCTTTAACATGG
TTCAGGCCCTTGGTGTGAGAGCCCAGGGGGAGGACAGCTTGTCTGCTGCTCCAAATCACTTAGA
TCTGATTCCTGTTTTGAAAGTCCTGCCCTGCCTTCCTCCTGCCTGTAGCCCAGCCCATCTAAAT
GGAAGCTGGGAATTGCCCCTCACCTCCCCTGTGTCCTGTCCAGCTGAAGCTTTTGCAGCACTTT
ACCTCTCTGAAAGCCCCAGAGGACCAGAGCCCCCAGCCTTACCTCTCAACCTGTCCCCTCCACT
GGGCAGTGGTGGTCAGTTTTTACTGCAAAAAAAAAAAAAAAGAAAAAAGAGAAAGAAAAAAAAG
AATGAATGCAAGCTGATAGCTGAGACTGTGAGACTGTTTTTGTCCACTCTTCTGAATCACTGCC
ACTTGGGTCAGGGACCACAGCCATTGCCACCCTTGGCCCATCTCTCTGGGTGCGTGCCTTGAGC
ACACCTATAAAAAGTGCCATGTGCAATTGTCTTATCTTTTATGATCTAGGCTTTGCCTAGGGAT
CACTACTCCTTAACGGGCTGGCTGGGGCGATGAGGAAAAGCTCCTTTGCTCCTGTAAGGCCATA
AGTGGCTGTTAACAGATTTTCAAATGCCTGAAGAGATTGCTGAGACCTGCTAGAGTCATACGTT
CGGGGAATTAAGTCTTTATCCTAGACAACAAGGTACAGATGCAAATTGCAGTGTTATTGGAGGG
TCAATCGGCAAGGATATGATTATCCCAAAATGGAGTTCATCGACCCTAGCTTTCCTTTAGATTA
TATATAAATAAAAGTGCAGTCCTCTTCTAATGGCCACAGTTGGTTTTCTTGTAGCCCAGAAAGT
CCAAATTAAAGGAAATAAATTCAGTTTTATGTTAGCCTTCCTTGGTGCATCAGGGTGTCAGTGG
AAATAGGATCAGGTGGTGTGTGTGTGTGTTTTGTGTGTGTGTACACATGTGTTTATATAT
ACATGTGTGAGGGAAAGTGTGTACATATGTAGGATTGTAACCAGACGGAAAAGAATGAGGAT
CTCCAGGGTGTTTGAATCAGCAACAGATTTGTGTTTTCTAACATGCATTTAGTTGGAGAGGCAT
GGTTCTGTTTGTTTTGTTTTGATCTAATTTGCCATTGGAAATAGGTACAGTTACACAGAGAAGG
AAGAACTAGGAAAGTGAGATCCATGAAACTAAATGAGCAGCTGTCAGAATCCAGTGTGGCTGAG
CCTACCTAGCTTATGAAATCTAACCCAGGGTTCCCTGAGTCCAAGACCACTTAGATTATTAAGA
TTTGAACGTCCAGAGGAGTGAAAAGTCTGTTTTCTGGACGTAAGCCGGAGCTGAGGATAAAGC
CAGAGGCCAGTGGATTAGGTGTATGGAATGTGGATGGAGAGGGCTTGTGTGGGATGTGGCCAGG
```

Fig 4E